

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION**

TESCO CORPORATION,

Plaintiff,

V.

**WEATHERFORD INTERNATIONAL,
INC., NATIONAL OILWELL VARCO,
L.P., OFFSHORE ENERGY SERVICES,
INC., and FRANK'S CASING CREW &
RENTAL TOOLS, INC.,**

Defendants.

[illegible]

CIVIL ACTION NO. H-08-2531

MEMORANDUM AND ORDER

In this patent infringement suit, Defendants seek construction of several terms contained in the asserted claims of U.S. Patent No. 7,140,443 (the “‘443 patent”) and U.S. Patent No. 7,377,324 (the “‘324 patent”). This Court held a hearing on October 14, 2009, during which the parties presented argument in support of their proposed constructions. This Court now construes the disputed claim terms as a matter of law under *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995), *aff’d*, 517 U.S. 370 (1996).

I. BACKGROUND

Plaintiff Tesco Corporation (“Tesco”) is the owner of the ‘443 patent and the ‘324 patent. The ‘324 patent is a continuation of the ‘443 patent. Tesco brought suit against Defendants Weatherford International, Inc. (“Weatherford”); National Oilwell Varco, L.P. (“NOV”); Offshore Energy International, Inc. (“OES”); and Frank’s Casing Crew and Rental Tools, Inc. (“Frank’s”) (“Defendants” collectively) for infringement of these patents. The ‘443 and ‘324 patents describe a tool used on a drilling rig. Drilling rigs are

used to bore and encase holes in the ground for the purpose of extracting oil. This process involves oilfield tubulars, or pipes, generally segmented into lengths of 30-40 feet. The drilling rig screws the pipe segments together to form a pipe string used to drill or encase the hole in the ground. More specifically, the patents describe an apparatus and method for handling the sections of the pipe or pipe strings that are used for drilling or lining a well bore. This pipe handling device is positioned below a top drive, a device placed in the upper part of a drilling rig which bears the weight of suspended pipe as it is driven into a well bore. Link arms are used to raise segments of a pipe string and place those segments into a pipe engaging apparatus such that the pipe segment can be rotated and connected with the pipe string being used to line or drill a well bore. Tesco's product is commonly referred to as the casing drilling system ("CDS").

The '443 patent contains 70 claims, and the '324 patent contains 34 claims. Because the disputed terms and phrases occur throughout these claims, the Court will not reproduce each claim containing a disputed term. Concurrent with this litigation, the United States Patent and Trademark Office ("PTO") is conducting reexamination proceedings to determine the viability of the '443 and '324 patents themselves. The proceedings have not yet reached a resolution. This Court previously denied Defendants' joint motion to stay this case pending patent reexamination. (Doc. No. 61.) However, this Court can consider statements and resolutions of ongoing reexamination proceedings in the context of claim construction. *Proctor & Gamble Co. v. Kraft Foods Global, Inc.*, 549 F.3d 842, 848 (Fed. Cir. 2008).

II. THE LEGAL STANDARD

A. Claim Construction

Claim construction is a matter of law, and thus the task of determining the proper construction of all disputed claim terms lies with the Court. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996). The Federal Circuit has opined extensively on the proper approach to claim construction, most notably in its recent opinion in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

The goal of a *Markman* hearing is to arrive at the ordinary and customary meaning of a claim term in the eyes of a person of ordinary skill in the art. *Phillips*, 415 F.3d at 1313. In order to do so, the Court should first look to intrinsic evidence to decide if it clearly and unambiguously defines the disputed terms of the claim. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F. 3d 1576, 1585 (Fed Cir. 1996). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *Phillips*, 415 F.3d at 1314.

Words of a claim are generally given their ordinary and customary meaning, which is the meaning a term would have to a person of ordinary skill in the art after reviewing the intrinsic record at the time of the invention. *O2 Micro Int'l Ltd. v. Beyond Innovation Technology Co.*, 521 F.3d 1352, 1360 (Fed. Cir. 2008). Thus, the inquiry into how a person of ordinary skill in the art understands a claim term provides an objective baseline from which to begin claim interpretation. *Phillips*, 415 F.3d at 1313. That starting point is based on “the well-settled understanding that inventors are typically persons skilled in the field of the invention, and that patents are addressed to, and intended to be read by, others of skill in the pertinent art.” *Id.* A district court is not obligated to construe terms with ordinary meanings, lest trial courts be inundated with requests to parse the meaning of every word in the asserted claims. *O2 Micro Intern. Ltd.*,

521 F.3d at 1360; *see also Biotec Biologische Naturverpackungen GmbH & Co. KG v. Biocorp, Inc.*, 249 F.3d 1341, 1349 (Fed. Cir. 2001) (finding no error in non-construction of “melting”); *Mentor H/S, Inc. v. Med. Device Alliance, Inc.*, 244 F.3d 1365, 1380 (Fed. Cir. 2001) (finding no error in the lower court's refusal to construe “irrigating” and “frictional heat”).

The claims themselves provide substantial guidance as to the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. To begin with, the context in which a term is used in the asserted claim can be highly instructive. *Id.* Other claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term. *Vitronics*, 90 F.3d at 1582. Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims. *Phillips*, 415 F.3d 1303.

In addition, the specification, or the part of the patent where the inventor describes and illustrates the invention in significant detail, “is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Vitronics*, 90 F.3d at 1582. The importance of the specification in claim construction derives from its statutory role. The close kinship between the written description and the claims is enforced by the statutory requirement that the specification describe the claimed invention in “full, clear, concise, and exact terms.” 35 U.S.C. § 112, ¶ 1. Consistent with that general principle, cases recognize that the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor's lexicography governs. *Phillips*, 415 F.3d at 316. In other cases, the specification may

reveal an intentional disclaimer, or disavowal, of claim scope by the inventor. In that instance as well, the inventor has dictated the correct claim scope, and the inventor's intention, as expressed in the specification, is regarded as dispositive. *Id.* The specification may also resolve ambiguous claim terms that are not sufficiently clear to permit the scope of the claim to be ascertained from the words alone. *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002).

Notably, while the specification may describe very specific embodiments of the invention, the claims are not to be confined to these embodiments. *Ventana Medical Systems, Inc. v. Biogenex Laboratories, Inc.*, 473 F.3d 1173, 1181 (Fed. Cir. 2006) (quoting *Phillips*, 415 F.3d at 1323). However, the importance of limiting language in the specification has been discussed by the Federal Circuit in terms that favor a restrictive reading. For example, in *Lizardtech, Inc. v. Earth Resource Mapping, Inc.*, 433 F.3d 1373, 1375 (Fed. Cir. 2006), the court stated:

However, in whatever form the claims are finally issued, they must be interpreted, in light of the written description, but not beyond it, because otherwise they would be interpreted to cover inventions or aspects of an invention that have not been disclosed. Claims are not necessarily limited to preferred embodiments, but, if there are no other embodiments, and no other disclosure, then they may be so limited. One does not receive entitlement to a period of exclusivity for what one has not disclosed to the public.

See also Honeywell Int'l, Inc. v. ITT Indus., Inc., 452 F.3d 1312 (Fed. Cir. 2006) (holding that the meaning of a claim was limited to the single embodiment disclosed in the specification). There is “a fine line between reading a claim in light of the specification, and reading a limitation into the claim from the specification.” *Comark Communications, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998).

Finally, the prosecution history, which has been designated as part of the “intrinsic evidence,” consists of the complete record of the proceedings before the PTO and includes the prior art cited during the examination of the patent. Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent. *Phillips*, 415 F.3d at 1317. Yet, because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes. *Id.* Still, “a patentee may limit the meaning of a claim term by making a clear and unmistakable disavowal of scope during prosecution.” *Purdue Pharma L.P. v. Endo Pharms., Inc.*, 438 F.3d 1123, 1136 (Fed. Cir. 2006); *see also Omega Engineering Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003) (finding that the doctrine of prosecution disclaimer is well established and precludes patentees from recapturing through claim construction specific meanings disclaimed during prosecution). A patentee could do so, for example, by clearly characterizing the invention in a way to try to overcome rejections based on prior art. *See, e.g., Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1349 (Fed. Cir. 2004) (limiting the term “transmitting” to require direct transmission over telephone line because the patentee stated during prosecution that the invention transmits over a standard telephone line, thus disclaiming transmission over a packet-switched network); *Alloc v. Int'l Trade Comm'n*, 342 F.3d 1361, 1372 (Fed. Cir. 2003) (finding the patentee expressly disavowed floor paneling systems without “play” because the applicant cited the feature during prosecution to overcome prior art); *Bell Atl. Network Servs. v. Covad Commc'ns Group, Inc.*, 262 F.3d 1258, 1273 (Fed. Cir. 2001) (limiting operation of the

“transceiver” to the three stated modes because of clearly limiting statements made by the patentee to try to overcome a prior art rejection).

A court may look to incomplete reexamination proceedings during claim construction. *Proctor and Gamble v. Kraft Foods Global, Inc.*, 549 F.3d 842, 847-48 (Fed. Cir. 2008). However, courts have questioned the probative value of preliminary reexamination findings by the PTO, noting that the PTO frequently grants requests for reexamination, but infrequently fails to find patentable claims. *See Hoechst Celanese Corp. v. BP Chemicals Ltd.*, 846 F. Supp. 542, 547 (S.D. Tex. 1994), *aff’d*, 78 F.3d 1575, 1584 (Fed. Cir. 1996).

Only if there is still some genuine ambiguity in the claims, after consideration of all available intrinsic evidence, should a trial court resort to extrinsic evidence, such as expert witness testimony, dictionary definitions, and legal treatises. While extrinsic evidence “can shed useful light on the relevant art,” it is “less significant than the intrinsic record in determining ‘the legally operative meaning of claim language.’ ” *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004) (quoting *Vanderlande Indus. Nederland BV v. Int’l Trade Comm’n*, 366 F.3d 1311, 1318 (Fed. Cir. 2004)). The judicial arbiter must be sufficiently informed so that she may step into the shoes of the ordinary skilled artisan. It is here that the use of extrinsic evidence makes the most sense.

B. Means-Plus-Function Claims

35 U.S.C. Section 112, ¶ 6 provides:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, *and such claim shall be construed to*

cover the corresponding structure, material, or acts described in the specification and equivalents thereof (emphasis added).

Means-plus-function claims contain only purely functional limitations but do not provide the structures that perform the recited function. *See Phillips*, 415 F.3d at 1311; *Envirco Corp. v. Clestra Cleanroom, Inc.*, 209 F.3d 1360, 1365 (Fed. Cir. 2000). Section 112 ¶ 6 allows a patentee to “describe an element of his invention by the result accomplished or the function served, rather than describing the item or element to be used.” *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 27 (1997). The claim is then interpreted with reference to, and as limited by, the related structure disclosed in the patent for performing the function recited in the claim, or the equivalents thereof. *Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1099 (Fed. Cir. 2008); *Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus., Inc.*, 145 F.3d 1303, 1308 (Fed. Cir. 1998). “Sufficient structure exists when the claim language specifies the exact structure that performs the functions in question without need to resort to other portions of the specification or extrinsic evidence for an adequate understanding of the structure.” *TriMed, Inc. v. Stryker Corp.*, 514 F.3d 1256, 1259-60 (Fed. Cir. 2008).

This Court must determine, as a matter of law, whether a phrase should be construed as a means-plus-function term. *Welker Bearing*, 550 F.3d at 1096. If the word “means” is used in a claim element, in combination with a function, the court must presume that Section 112, ¶ 6 applies unless the claim recited a sufficient structure to perform the function. *Id.*; *TriMed*, 514 F.3d at 1259; *Micro Chem., Inc. v. Great Plains Chem Co.*, 194 F.3d 1250, 1257 (Fed. Cir. 1999). If the word “means” is not used, the presumption is that a claim falls outside of Section 112, ¶ 6. *Micro Chem.*, 194 F.3d at 1257. This presumption is rebutted by showing that the claim element recites a function

without reciting sufficient structure for performing that function. *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000). If means-plus-function analysis applies, a court must first determine what the claimed function is and then determine the corresponding structures disclosed in the specification that perform that function. *Welker Bearing*, 550 F.3d at 1097; *Minks v. Polaris Indus., Inc.*, 546 F.3d 1364, 1377 (Fed. Cir. 2008).

III. ANALYSIS OF CLAIMS

There are fourteen terms or phrases the constructions of which are currently in dispute between the parties. This Court will generally address them term by term, although certain terms will be grouped together for the sake of convenience and efficiency.

A. “axle/second axle”

This term is contained in the ‘443 patent, claims 5, 6, 8, 19, 20, 51, 52, 62, and 65; and the ‘324 patent, claims 5, 6, and 8. Tesco contends that this term needs no construction, because the meaning is plain on its face. Defendants NOV and OES agree. Defendants Weatherford and Frank’s propose that the terms be defined as “a shaft” and “a second shaft” respectively, because the term axle is consistently used to refer to a shaft in the patent claims and in the specification. (The ‘443 Patent, Pl. Ex.1, Col. 6 ll. 62-63.)

This Court finds that the term “axle” needs no construction, because it is readily understood by a person of ordinary skill in the art. Tesco is correct that, while an axle can be a shaft, and ordinarily is a shaft of some kind, nothing in the intrinsic evidence of this case indicates that an axle must be a shaft. In fact, the term “shaft,” while perhaps an adequate description of the physical structure comprising the axle, conveys a different idea entirely, as it says nothing about the way that the physical structure functions. The

term “axle,” on the other hand, conveys something about the way in which the structure is actually being used.

Moreover, calling an axle a shaft does not add clarification to the term, nor does it solve any legitimate dispute as to the scope of the patents-in-suit. It is not the case, and indeed the parties do not contend, that “axle” has more than one ordinary meaning. A person of ordinary intelligence understands what is referred to by the term “axle.” Thus, this term needs no clarification.

B. “link arms mounted by a pivotal connection to move with the top drive”

This term is contained in the ‘443 patent, claim 30, and the ‘324 patent, claim 22. Tesco once again asserts that the claim needs no construction because it is clear on its face. At the hearing, all Defendants argued that the term was indefinite and that it should be construed as “pivotally connected directly to the pipe engaging apparatus.” NOV and OES further assert that the construction should include “i.e., the part that grips the pipe, not the top drive directly or indirectly through any part interposed between the top drive and the pipe engaging device.” Defendants argue that, through statements made in the reexamination proceedings, Tesco explicitly disclaimed any construction for this term other than the embodiment in which the link arms, or the pipe-handling device, are connected directly to the pipe engaging apparatus. Thus, according to all Defendants, Tesco’s patent covers only those situations in which the pipe handling device is directly connected to the pipe engaging apparatus, as opposed to the top drive itself or any surface interposed between the top drive and the pipe engaging apparatus. Defendants contend that the terms within the claims should reflect such a limitation.

In its specification, the ‘443 patent discloses “a pipe handling device for mounting to move with a top drive, the pipe handling device comprising a link arm having a first end and an outboard end, the first being mounted to a support surface, moveable with the top drive, by a pivotal connection” (The ‘443 Patent, Pl. Ex. 1, Col. 1 ll. 52-56.) The specification goes on to describe one embodiment of the patent as “[t]he first and second link arms . . . each include a first end pivotally connectable to the main body of the pipe engaging apparatus.” (*Id.* Col 4 ll. 4-6.) The statements made by Tesco and its representatives at the reexamination proceedings to distinguish prior art from its invention include:

- “[T]he pipe handling device of [prior art] is mounted on the [top drive] and is not mounted on the pipe engagement device” (The ‘443 Patent Reexam, Defs. Ex. 10 at 1176.)
- “Since the [carrier] . . . forms part of the top drive . . . the pipe handling device of [prior art] is mounted on the top drive . . . and is not mounted on the threaded pipe engagement device” (The ‘443 Patent Reexam, Defs. Ex. 10 at 1177.)
- “Thus, the pipe handling device of [prior art] is mounted on the [top drive] and is not mounted on the gripping tool.” (The ‘443 Patent Reexam, Defs. Ex. 10 at 1177.)
- “As described above, [prior art] all disclose **pipe handling devices that are mounted on the top drive**. None disclose *pipe handling devices that are mounted on the pipe engagement devices*.” (The ‘443 Patent Reexam, Defs. Ex. 10 at 1180 (emphasis in original).)

In addition, Defendants point to a statement made by Tesco in its initial remarks to the PTO stating that prior art “fails to disclose a link arm having a first end pivotally connectable to a pipe engaging apparatus,” but instead disclosed a link arm “pivotally connectable to a carrier supported on a top drive.” (Tesco Preliminary Remarks, Pl. Ex. 9, at TESCOSD0040136, April 16, 2007.)

Tesco maintains that, in the reexamination proceedings, only embodiments of the device in which the link arms are connected to any part of the top drive were disclaimed. Tesco further avers that statements in which it or its representatives describe link arms connected to the pipe-handling device were made in the context of trying to distinguish their invention from prior art in which the link arms are connected to part of the top drive; they maintain that these statements were not made for the purpose of conveying that connection to the body of the pipe engaging apparatus is the exclusive embodiment covered by the ‘443 and the ‘324 patents.

Notably, the parties do not dispute that Tesco’s patents do not cover any embodiments of this device in which the link arms are connected directly to a top drive. Tesco repeatedly asserted in the *Markman* hearing that such an embodiment would not be covered by the patents-in-suit. It is equally undisputed that Tesco’s patents do cover any embodiments where the link arms are mounted onto the pipe engaging apparatus, even when this connection is achieved through mounting the link arms onto a bracket that is then mounted onto the pipe engaging apparatus. Rather, the issue of dispute between the parties appears to be whether Tesco’s patent will cover those embodiments of the device in which the link arms are mounted onto some surface positioned below the top drive, but not part of the main body of the pipe-handling device such that the link arms can be said

to be “directly on the device.” In other words, the parties directly conflict on the question of whether the patent’s scope includes support surfaces positioned between the top drive and pipe-handling device. Defendants’ constructions seek to exclude this area from the patent’s scope, while Tesco seeks to leave the language as it is, averring that such exclusions are not appropriate.

While acknowledging that Tesco’s patents do not cover *all* the intermediate surfaces described above, and that this is a very close call, this Court nonetheless rejects Defendants’ proffered definitions of these terms at this stage of claim construction. The description of the ‘443 patent describes link arms mounted to a support surface, which “can be moveable with the top drive and can, for example, be a portion of a top drive or a pipe-engaging apparatus or another surface connected in some way to move with the top drive.” (The ‘443 Patent, Pl. Ex. 1, Col. 3 ll. 21-23.) As noted above, embodiments in which the support surface is a portion of the top drive have now been disclaimed. Furthermore, while the Court recognizes the statements made by Tesco in the reexamination proceedings suggest that link arms mounted onto the body of the pipe engaging apparatus is the standard, or even preferred, embodiment of the invention, the Court also notes that each of the statements highlighted by Defendants was made as part of Tesco’s attempt to explain that the link arms were in no way connected to the top drive, thereby distinguishing Tesco’s invention from prior art. In other words, the thrust of these comments was not that the link arms had to be connected directly to the pipe engaging apparatus, but rather that the link arms could not be connected to any part of the top drive. Whether this binary top-drive-or-pipe-engaging-apparatus framework created by Tesco is accurate, or whether Tesco’s comments anticipated a surface between the top

drive and the pipe engaging apparatus that is wholly independent from both, is not clear from the prosecution history. However, what is apparent is that Tesco's statements during reexamination did not amount to a "clear and unmistakable disavowal" that the scope of the patent excludes *any* intermediate surface. See *Purdue Pharma L.P. v. Endo Pharms., Inc.*, 438 F.3d 1123, 1136 (Fed. Cir. 2006). What Tesco did disavow, however, is any surface that can be fairly described as part of the top drive. Therefore, the language of the claims themselves need not as a matter of law be construed to exclude coverage of an intermediate surface, provided that this intermediate surface forms no part of and is not supported by the top drive itself.

Because this Court does not find it appropriate to import the term "directly" into this claim term as sought by Defendants, this Court rejects Defendants' proffered definitions. However, in order to ensure that "link arm mounted by a pivotal connection to move with the top drive" is consistent with statements made by Tesco both in the prosecution of the patents-in-suit as well as in the reexamination proceedings, we find that the term should be construed as "link arm mounted to a surface by a pivotal connection to move with the top drive, but not connected to any part of, or surface supported by, the top drive itself."¹

C. "pivotally connectable"

This term is contained in the '443 patent claims 1, 6, 20, 52, 55, 57, 59, and 65, and in the '324 patent claims 1 and 6. The term is generally used in reference to the end of the link arms being pivotally connectable to the pipe engaging apparatus. Weatherford

¹ The Court also finds that this construction addresses Defendants' argument that this phrase is indefinite under 35 U.S.C. Section 112. This construction sufficiently describes the object on which the link arms are mounted, and distinguishes this claim from prior art which, according to Tesco's statements at the reexamination proceedings, includes a pivotal connection to some surface that comprises part of the top drive.

proposes that the term be construed as “pivotally connected,” while Frank’s and NOV/OES seek to define the term as “can be pivotally connected in the future.” At the hearing, counsel for NOV and OES argued that the scope of the term “pivotally connectable” is too broad, because it is not clear when the connection had to be made for a product to infringe. They also argued that the term allowed for infinite expansion, because anything could be “pivotally connectable” under the right set of circumstances.

Claims are construed so as to avoid ridiculous interpretations. Because of this, we do not find that the term “pivotally connectable” invites a large range of logical interpretations such that those words must be modified or limited through construction. People of ordinary skill in the art, and a judge and members of a jury, understand what it means to be “pivotally connectable,” or capable of being pivotally connected. Because the term pivotally connectable is only subject to one *logical* interpretation, the term does not invoke ambiguity as to the scope of the claims in which it is used.

Weatherford argues in its *Markman* brief that allowing the term to be construed as “capable of being pivotally connected” could cause jury confusion, because “although the link is capable of being connected to the pipe engaging apparatus, but is later connected to [another surface]” the jury might improperly find infringement. (Weatherford *Markman* Brief, Doc. No. 157, at 9.) However, Weatherford improperly conflates those claims that describe the link arms themselves with those that clarify where the link arms must be connected to fall within the scope of the patent. The term “pivotally connectable” is being used to describe the individual parts of the pipe handling device. For example, claim 1 of the ‘443 patent states “the pipe handling device comprising: a link arm having a first end pivotally connectable to the bracket and an outboard end

pivotally connectable to a pipe elevator segment.” (The ‘443 Patent, Pl. Ex. 1.) However, there remains the separate issue of precisely where the link arms must be connected in order to fall within the scope of the patent, an issue vehemently disputed by the parties. It is not necessary to attempt to resolve the dispute as to the location of the connection through construction of this descriptive term. Moreover, the Court is skeptical that there might be a product in which the link arms presented are both pivotally *connectable* to the pipe-engaging apparatus and yet pivotally *connected* to something else entirely, as the connection must be achieved somehow, through some mechanism that is uniquely located at the point at which the arms are actually connected. This further suggests that the term need not be construed as Weatherford suggests.

Because the context in which the phrase is used makes the logical interpretation of “pivotally connectable” apparent, this Court finds that the term does not render the scope of the patent unclear, and thus it need not be construed differently from its plain meaning of “capable of being pivotally connected.”² However, to address Defendants’ concerns that “pivotally connectable” could be too broad, the court will add the phrase “to the pipe-engaging apparatus, but not connected to any other support surface outside the scope of the patent.”

D. “Link arm on the pipe engaging apparatus”

This phrase is used in the ‘443 patent, claim 27, and in the ‘324 patent, claims 14, 27, and 31. More specifically, claim 27 of the ‘443 patent describes “a link arm on the

² Indeed, Frank’s and NOV concede in their brief that connectable is different from actually being connected. In so doing, NOV and OES contend that, because claim 1 includes only the capability of being connected, claim 2’s reference to the link’s “pivotal connection” has no antecedent basis, and is therefore indefinite. The Court rejects this argument. Claim 1 intends to describe the component parts of the pipe engaging apparatus, one primary component of which is a link arm being pivotally connectable at both ends. Claim 2 then goes on to describe where the connection actually exists: the connection is on the pipe engaging apparatus. As such, although claim 2 is outside the scope of claim 1; claim 1 indicates that a connected could exist, while claim 2 specifies that the connection does exist.

pipe engaging apparatus and capable of pivoting relative to the pipe engaging apparatus” (The ‘443 Patent, Pl. Ex. 1.) This term is subject to much of the same analysis as found in Part B of this Order. Defendants seek to define this term so as to convey that the link arms must be directly on the pipe engaging apparatus, while Tesco avers that the phrase needs no construction. The Defendants seek to define the term as follows:

Tesco's Proposed Meaning	Weatherford's Proposed Construction	Frank's Proposed Construction	NOV's and OES's Proposed Construction
No construction is necessary	"the link arm is pivotally connected directly to a pipe engaging apparatus"	"the link arm is positioned in direct contact with and is supported by the pipe engaging apparatus"	"the link arm is pivotally connected directly to a pipe engaging apparatus, i.e., the part that grips the pipe, not to the top drive directly or indirectly through any part interposed between the top drive and the pipe engaging device"

The Court reiterates its earlier holding that Tesco’s statements at the reexamination proceedings, while specifically identifying one embodiment in which the link arms were directly connected to the pipe engaging apparatus, did not limit the patents to only this embodiment. Particularly, Tesco’s statements distinguishing prior art were made for the purpose of conveying that the patents cover all embodiments in which the link arms are connected, whether directly or not, to the pipe engaging apparatus as opposed to the top drive. However, the Court acknowledges that the term “on the engaging apparatus” may be unclear in light of the fact that elsewhere in the patent the link arms are described as being connected or connectable to the pipe engaging apparatus. There is no real reason or explanation for why, in one context, the arms are described as

being “connected” to the pipe engaging apparatus, while in another they are “on” it. As such, this Court finds that the term “on the engaging apparatus” should be construed to mean “connected to the engaging apparatus.” In so doing, the Court adopts Weatherford’s construction without the words “pivotally” or “directly.” As the term is used in each of the claims cited above, the construction would read “a link arm connected to the pipe engaging apparatus and capable of pivoting” The Court therefore finds the word “pivotally” unnecessary, and adopts the construction of “connected to the pipe engaging apparatus.”

E. “substantially in a plane”

Although included in the list of disputed terms, the parties came to an agreement that this phrase requires no construction.

F. “pivotally connected/pivotally mounted/pivotal connection”

This term is used in the ‘443 patent, claims 6, 10, 13, 19, 22, 23, 30, 52, 55, 57, 61, 62, and 67, and in the ‘324 patent, claims 1, 2, 5, 6, 11, and 22. The parties seek to construe this term as follows:

Tesco's Proposed Meaning	Weatherford's Proposed Construction	Frank's Proposed Construction	NOV's and OES's Proposed Construction
No construction is necessary	No construction is necessary	(link arm(s)) are "directly and tightly pivotally connected to the pipe engaging apparatus"	"the link arm must be pivotally connected to the part that grips the pipe, not to the top drive directly or indirectly through any part interposed between the top drive and the pipe engaging device"

For the reasons stated in parts B and C of this opinion, this Court concludes Frank's and NOV/OES's construction cannot be adopted. While the patent on its face states in several claims that the link arms are connected to the pipe engaging apparatus, the Court does not find that the Tesco's statement should, as a matter of law, be construed so as to read "directly" and "tightly" into the claim language. Tesco's statements clearly disclaim any embodiment in which the link arms are connected to any part of the top drive itself, but not embodiments in which this connection is to some surface independent of, meaning neither carried by nor part of, the top drive. Thus, this Court cannot hold that, as a matter of law, the claim can be construed in the manner that NOV and OES suggest, excluding *any* surface between the top drive and the pipe engaging apparatus, although the Court acknowledges that some such surfaces would not be covered. If such a surface comprises part of the top drive, the patent does not cover it. That much is clear. If that surface is instead part of the pipe engaging apparatus, then it falls within the claim language. Therefore, the Court does not require that the terms be limited as the Defendants suggest. No construction is therefore necessary.

G. "lateral movement"

This term is used in the '443 patent, claim 28, and in the '324 patent, claims 15, 23, 28, and 32. All parties, with the exception of Frank's, agree that this term needs no construction. Frank's contends that this term should be construed to mean "side-to-side movement." The Court notes that this claim term is generally used in the patent in the context of lateral movement with respect to some other structure, a context that might make use of this term unclear to a person who would otherwise understand its meaning. The phrase "side-to-side" does add some clarification as to the movement being

described by the term “lateral,” and, as Frank’s points out, is consistent with the generally understood meaning of the word. However, the Court finds that this term should be further clarified given the context in which it is used here as part of a larger apparatus. Therefore, considering its contextual use within the claim terms, the Court construes this term to mean “side-to-side movement outside the intended plane of rotation.”

H. “pipe engaging apparatus”

Although this was included in the list of disputed terms, all parties agree that this term needs no construction.

I. “bracket”

This term is used in the ‘443 patent, claim 1. All Defendants except for NOV/OES agree that this term should be construed as “pipe engaging apparatus.” NOV and OES, on the other hand, contend that in claim 1 this term is without antecedent basis and indefinite. Tesco admits in its brief that the term “bracket” as used in claim 1 has no antecedent. However, Tesco asserted at the *Markman* hearing that the claim is nonetheless clear and in no need of construction, and could thus be construed as “bracket.”

Tesco further states in its brief that this term was actually a typographical error that resulted from the patent being retyped after an amendment. NOV and OES maintain that such a correction should have been made by seeking an issuance by the Patent Office of a Certificate of Correction under 35 U.S.C. Section 254, rather than by asking this Court to make the change through construction. While the Court recognizes that NOV and OES are not incorrect, it nonetheless also notes that the other Defendants are willing to acknowledge this typographical error and read “bracket” as it is used in claim 1 to

mean “pipe engaging apparatus.” Particularly in light of the fact that the use of the term “bracket” does not make claim 1 irreparably unclear, and that any ambiguity is thoroughly resolved in the remaining claims, this Court holds that “bracket” can be construed as “pipe engaging apparatus,” and the claim therefore need not be entirely stricken.

J. Means-Plus-Function Terms

The four phrases discussed in this section are terms that Defendants argue qualify as means-plus-function terms. As such, Defendants claim that the phrases describe a function that should be limited by the specific structures disclosed in the claims and specification to achieve that function. All Defendants offer different constructions as to how to so limit the terms. Tesco argues that none of these are means-plus-function phrases, and thus limiting the terms in the manner proposed by Defendants is inappropriate. The Court preliminarily notes that none of the phrases at issue here used the term “means.” Thus, Defendants must, in their argument, overcome the presumption against construing these as means-plus-function claims. *Micro Chem., Inc. v. Great Plains Chem Co.*, 194 F.3d 1250, 1257 (Fed. Cir. 1999)

1. “fitted for anti-rotation”

This term is in the ‘443 patent, claims 11, 27, 30, 25, 37, and 59, and in the ‘324 patent, claims 12, 18, 25, and 26. Defendants argue that the phrase is employed to claim a means for preventing rotation of the link arm, for which no corresponding structure is disclosed in the claims themselves. As such, the parties offer constructions as follows:

Tesco's Proposed Meaning	Weatherford's Proposed Construction	Frank's Proposed Construction	NOV's and OES's Proposed Construction
No construction is necessary	Subject to 35 U.S.C. § 112, ¶ 6, the function is "to fit the link arm for anti-rotation," and the corresponding structure is a bracket mounted on the pipe engaging apparatus and having a "key 121 for fitting into an anti-rotation guide slot extending down from the top drive."	Should be construed to be a purely functional term interpreted under. § 112, ¶ 6, to include "a bracket mounted on the pipe engaging apparatus and having a key for fitting into an anti-rotation guide slot extending down from the top drive and key and slot structures equivalent thereto"	Should be interpreted under § 112, ¶ 6, to cover "a bracket on the pipe engaging apparatus connected to a link arm, the bracket having a key adapted to fit with a corresponding channel or guide slot in a second bracket extending from the top drive," and key and slot structures equivalent thereto.

Because the link arms do not inherently have a mechanism to prevent them from rotating, the Court does find that some explanation is required as to how the link arms are so fitted. The Court finds such an explanation in claim 60 of the '443 patent, which describes the method by which the anti-rotation is achieved. Claim 60 covers "the pipe handling device of claim 59 wherein the link arm is fitted for anti-rotation by including a key fitting into an anti-rotation guide slot extending from the top drive." Thus, claim 60 expressly states the structural element by which the link arms are "fitted for anti-rotation." The Court recognizes that the term "key" might invite some further ambiguity as to the scope of the patent. However, this potential ambiguity is resolved with this Court's construction of the term "channel key" below. Therefore, the Court finds that, under 35 U.S.C. Section 112, ¶ 6, "fitted for anti-rotation" may be construed to include "a key fitted into an anti-rotation guide slot extending from the top drive."

Defendants seek to narrow this claim even further by also including structures described in the specification. The specification discusses a bracket mounted on the pipe engaging apparatus and having a key adapted to fit into a guide slot extending from the top drive. However, importing this level of specificity into the claim itself would be importing embodiments into a claim in just the manner prohibited by the Federal Circuit. Indeed, while the patent claims themselves make it clear that anti-rotation is achieved through a key that fits into an anti-rotation guide slot, the inclusion of a bracket mounted into the pipe engaging apparatus is simply one way of creating this structure. Notably, the Defendants do not seek construction of the phrase “including a key for fitting into an anti-rotation guide slot.” A bracket connected to a pipe engaging apparatus is indeed one way in which a *key is included*. However the specific term that the parties ask the Court to construe is “fitted for anti-rotation.” As stated above, the substantial prevention of rotation is achieved through a key that fits into a guide slot. Therefore, the Court construes the term “fitted for anti-rotation” to include “a key that fits into a guide slot extending from the top drive.” Because this clarification is derived from the claim language, the phrase is not a means-plus-function term.

2. “the link arm is laterally stabilized to rotate substantially in a plane”

This phrase is in the ‘443 patent, claims 9, 21, 54, 56, and 67, and in the ‘324 patent, claim 9. The parties seek to construe this phrase as follows:

Tesco's Proposed Meaning	Weatherford's Proposed Construction	Frank's Proposed Construction	NOV's and OES's Proposed Construction
No construction is necessary	No construction is necessary	The elements "laterally stabilized..." should be construed pursuant to 35 U.S.C. § 112, ¶ 6 to mean "One or more axles, each pivotally mounting a link arm firmly on one or more axles utilizing shaft-mounted washers on either side of the link arm"	The elements "laterally stabilizing..." should be construed pursuant to 35 U.S.C. § 112, ¶ 6 to mean "washers or equivalent structures on either side of the link arm eye ends."

Two Defendants seek to construe the term pursuant to 35 U.S.C. Section 112, ¶ 6, whereas Weatherford agrees that this terms needs no construction. The Defendants who do seek construction argue that the specification names washers as one method to achieve lateral stabilization, and that this claim should therefore be construed to mean that the use of washers is the only means of achieving lateral stabilization covered by this claim. The prosecution history as well as reexamination proceedings reveal that it is in fact the lateral stabilization of the link arms themselves that distinguishes Tesco's invention from prior art in which the link arms are relatively free to float and less stable. Therefore, the lateral stabilization of the link arms is a "result accomplished or a function served" by Tesco's invention. *See Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 27 (1997). Defendants are correct that the link arms themselves are not inherently or intrinsically stabilized—therefore some other structure is necessary to perform the function recited in this claim. *Cf. TriMed*, 514 F.3d at 1260 (holding that the claims themselves articulated the structure for performing the function of stabilizing the exposed end of the pin against displacement); *Chiuminatta Concrete*, 145 F.3d at 1308 (holding

that a skid plate was the structure corresponding to the function of supporting the surface of the concrete). Here, no such corresponding structure is provided in the claims themselves. Thus, despite the fact that the term “means” is nowhere used, the Court holds that this phrase is subject to means-plus-function analysis.

The Court must therefore look to the specification to determine what structure achieves the function of stabilizing the link arm against lateral movement so as to avoid allowing the scope of the patent to include “any and every means” of achieving this result. The ‘443 patent specification reveals “washers” that “can be mounted on axles on either side of the link arm link eye ends” that “tend to maintain the arms in a laterally stable position . . . to rotate substantially only in a plane.” (The ‘443 Patent, Pl. Ex. 1, Col. 6 ll. 66-Col. 7 ll. 2.) Tesco also disclosed washers as a means of achieving lateral stabilization in the reexamination proceedings before the PTO. (The ‘443 Patent Reexam, Defs. Ex. 10 at 1176.) Accordingly, both Frank’s and NOV/OES propose constructions of this phrase that include washers as the means for achieving the claimed function. Frank’s construction adopts the description provided in the specification wholesale. However, this construction inappropriately attempts to import limitations beyond those necessary to stabilize the link arms, and must therefore be rejected. *See Welker Bearing*, 550 F.3d at 1097 (noting that a court may not import “structural limitations from the written description that are unnecessary to perform the claimed function”) (quoting *Wenger Mfg., Inc. v. Coating Machinery Sys., Inc.*, 239 F.3d 1125, 1233 (Fed. Cir. 2001)). The Court therefore adopts NOV/OES’s construction and finds that this claimed function should be construed as using “washers or the equivalent structures on either side of the link arms eye ends.”

3. **“the link arm . . . substantially stabilized when in the lowered position against moving out of a plane of rotation”**

This phrase is used in the ‘443 patent, claim 30, and in the ‘324 patent, claim 22.

The parties seeks to construe the terms as follows:

Tesco's Proposed Meaning	Weatherford's Proposed Construction	Frank's Proposed Construction	NOV's and OES's Proposed Construction
No construction is necessary	No construction is necessary	"substantially preventing movement outside a plane of rotation "	"substantially stabilizing [] against ..." should be construed pursuant to § 112, ¶ 6 to mean "pads or equivalent structures interposed between the link arm and the pipe engaging apparatus to maintain a desired spacing between the link arms and the pipe engaging apparatus and to stabilize the arms, when they are in their lower position."

Turning first to Frank’s proposed construction, the main issue of dispute between Frank’s and Tesco is that Tesco claims that Frank’s is trying improperly to narrow the claim through use of the word “preventing.” Frank’s contends that this word is derived from the word “against,” and from Tesco’s statement at the reexamination proceeding that certain prior art would not “prevent [the link arms] from swinging side-to-side.” The Court rejects importing this limitation into the claim language. That Tesco has claimed a system which prevents, to the extent possible, lateral movement, does not imply that its claims should be narrowed to those situations where lateral movement is in fact completely prevented. The word “against,” as it is used in the claim itself, does not imply that movement is completely prevented. Rather, it implies that the link arms are

positioned such that there is some resistance against movement outside the plane of rotation. Furthermore, the Court notes that, in the reexamination proceedings, Tesco has not argued that, in its patent, link arms are wholly prevented from moving side-to-side. The statement to which Frank's points was taken out of context. In stating that the prior art would not prevent the link arms from movement, Tesco was making the point that the prior art contained "no structure that laterally restrained the [link arms]" and that the link arms were not "laterally stabilized" in their rotation. (Defs. Ex. 10 at 1176.) Tesco was not making the point that the prior art does not wholly prevent lateral movement, while its patented structure does. Thus, this Court does not believe that, as a matter of law, the claim should be construed so as to use the term "preventing." Accordingly, the Court rejects Frank's proposed construction.

Turning then to NOV/OES's construction, they once again argue that this term is subject to means-plus-function analysis because the patent claims do not reveal the structure necessary to perform the function of stabilizing the link arms when in a lowered position. As with the previous term, this Court agrees that the stabilization of the link arms in the lowered position is a function that, under Section 112, requires some corresponding structure other than link arms themselves. The patent specification reveals "pads" that "can be detachably connected . . . to link arms . . . to stabilize the arms when they are in their lower position" through contacting the surface of the pipe engaging apparatus. (The '443 Patent, Pl. Ex. 1, Col. 7 ll. 36-40.) NOV/OES's construction, however, attempts to import the specification language wholesale, thereby improperly narrowing the scope of the claim by including structures not necessary to achieve this function. This Court instead holds that the function should be construed under Section

112 as using “pads or equivalent structures between the link arms and the pipe engaging apparatus.”

4. “substantially stabilizing the link arm against lateral movement”

This phrase is found in the ‘443 patent, claims 28 and 31, and in the ‘324 patent, claims 15, 23, 28, and 32. The parties seek to construe the terms as follows:

Tesco's Proposed Meaning	Weatherford's Proposed Construction	Frank's Proposed Construction	NOV's and OES's Proposed Construction
No construction is necessary	No construction is necessary	"substantially preventing side-to-side movement"	"substantially stabilizing [] against ..." should be construed pursuant to § 112, ¶ 6 to mean "pads or equivalent structures interposed between the link arm and the pipe engaging apparatus to maintain a desired spacing between the link arms and the pipe engaging apparatus and to stabilize the arms, when they are in their lower position."

This Court construes the term “lateral” to mean “side-to-side movement outside the intended plane of rotation.” Furthermore, as explained above, this Court declines to construe “substantially stabilizing” to be the equivalent of “preventing.” Therefore, the Court does not adopt Frank’s construction.

NOV and OES contend that, like the previous two, this phrase is subject means-plus-function analysis. The Court notes that this phrase is used in claims describing “a method for handling pipe in a rig” that includes substantially stabilizing the link arms, as opposed to the previous two phrases which are used in claims that describe the

components of the apparatus itself. The claims language is explicit as to this point. For example, claim 28 of the '443 patent describes "[t]he method for handling pipe in a rig as in claim 27 further comprising substantially stabilizing the link arm against lateral movement while lowering the top drive" Thus, the patents-in-suit use this particular phrase, or "substantially stabilizing the link arms," as part of *the method* by which the overall handling of pipe is better achieved. Other claims, already construed above as incorporating structures named in the specification, go on to describe how the function of stabilization, as it contributes to this overall method, is accomplished. As such, this Court is not persuaded that this phrase is a means-plus-function term that needs to incorporate specific structures named in the embodiment described in the specification. Rather, it is a method claim needing no construction.

K. "channel key"

This phrase is used in the '443 patent, claims 4, 18, 43, and 60, and in the '324 patent, claim 4. All the parties propose a different construction of the terms as follows:

Tesco's Proposed Meaning	Weatherford's Proposed Construction	Frank's Proposed Construction	NOV's and OES's Proposed Construction
"a key that fits into a channel"	"a key for fitting into the anti-rotation channel extending down from the top drive"	"mechanical projection adapted to fit into a guide slot to prevent rotation"	"an outwardly projecting flange or protrusion extending from the link arm bracket and adapted for fitting into an anti-rotation guide slot extending from the top drive"

This court recognizes that it is not immediately clear what the term "channel key" refers to. Furthermore, the context in which it is used in the claims themselves does not

provide sufficient clues such that a member of the jury could easily understand and assign a meaning to the term. Weatherford contends that its construction is consistent with the contextual use of the word “key” as it is described elsewhere in the patents-in-suit as “fitting into an anti-rotation guide slot extending from the top drive.” (The ‘443 Patent, Pl. Ex. 1, Col. 6 ll. 59-61 and Col. 13 ll. 46-48.) Figure 4 in the patents-in-suit shows the mechanical structure of the channel key. It does not appear that channel key is otherwise defined.

As described by Frank’s in its brief, the specification discloses the following structure for how a key works to achieve anti-rotation: a bracket on the pipe engaging apparatus has a key, and this key goes into a corresponding anti-rotation guide slot, location on a second bracket, which prevents rotation. (Frank’s *Markman* Brief, Doc. No. 156 at 28.) The specification implies that a key is a projection of some kind. Furthermore, because the term “guide slot” is consistently used in describing the function of the “key” in this apparatus, the Court finds that the term guide slot should be used to clarify what is meant by the term “channel.” As such, we find that Frank’s construction most closely captures the mechanism of a “channel key” as it is used in the ‘443 and ‘324 patents. We therefore construe channel key to mean “a mechanical projection adapted to fit into a guide slot to prevent rotation.”

IV. CONCLUSION³

The Court hereby construes the disputed terms and phrases as follows:

³ The Court also recognizes that there is an outstanding Motion to Compel more specific preliminary infringement contentions filed by NOV and joined by OES (Doc. No. 137). At the hearing held on September 15, 2009, this Court indicated that it would postpone a final decision on the Motion until after claim construction in order to determine whether any party had been prejudiced by any lack of specificity in Tesco’s Preliminary Infringement Contentions. As this Court does not find that any party was without adequate information effectively to argue its proposed constructions, the Court DENIES this Motion.

Term, Phrase, or Clause	Court's Construction
"axle/second axle"	No construction is necessary.
"link arm mounted by a pivotal connection to move with the top drive"	“link arm mounted to a surface by a pivotal connection to move with the top drive, but not connected to any part of, or surface supported by, the top drive itself”
"pivotally connectable"	“capable of being pivotally connected to the pipe engaging apparatus, but not connected to any support structure outside the scope of the patent”
"link arm on the pipe engaging apparatus"	“link arm connected to the pipe engaging apparatus”
"substantially stabilizing the link arm against lateral movement"	No construction is necessary. See construction of “lateral movement.”
"substantially in a plane"	No construction is necessary.
"pivotally connected/pivotally mounted/pivotal connection"	No construction is necessary.
"lateral movement"	“side-to-side movement outside the intended plane of rotation”
"pipe engaging apparatus"	No construction is necessary.
"bracket"	“pipe engaging apparatus”
"fitted for anti-rotation"	“fitted for anti-rotation” using “a key that fits into a guide slot extending from the top drive”

Term, Phrase, or Clause	Court's Construction
"the link arm is laterally stabilized to rotate substantially in a plane"	Construed pursuant to 35 U.S.C. § 112, ¶ 6 as using "washers or the equivalent structures on either side of the link arms eye ends."
"the link arm ... substantially stabilized when in the lowered position against moving out of the plane of rotation"	Construed pursuant to 35 U.S.C. § 112, ¶ 6 as using "pads or equivalent structures between the link arms and the pipe engaging apparatus."
"channel key"	"a mechanical projection adapted to fit into a guide slot to prevent rotation"

At the hearing held on September 2, 2009, this Court ruled that it would set a deadline for the parties to submit their expert reports after issuing its *Markman* Order. Accordingly, a status conference will be held on Wednesday, January 13, 2010, at 2:30 pm to discuss this and any other outstanding issues.

IT IS SO ORDERED.

SIGNED this 5th day of January, 2010.



KEITH P. ELLISON
UNITED STATES DISTRICT JUDGE